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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/977,678	10/15/2001	Christopher W. Gabrys	IG2210US	3495

7590

12/31/2003

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EXAMINER

LE, DANG D

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 12/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

### Office Action Summary

Application No.

09/977,678

Applicant(s)

GABRYS, CHRISTOPHER W.

Examiner

Dang D Le

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19-22 and 26-41 is/are allowed.
- 6) ☒ Claim(s) 1,2,5-18 and 23-25 is/are rejected.
- 7) ☒ Claim(s) 3 and 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of all claims in Paper dated 10/21/03 is acknowledged. All claims are prosecuted.

### ***Oath/Declaration***

2. Applicant has not given a post office address anywhere in the application papers as required by 37 CFR 1.33(a), which was in effect at the time of filing of the oath or declaration. A statement over applicant's signature providing a complete post office address is required. If the post office address is the same with the residence address, it must be declared so.

### ***Response to Arguments***

3. Applicant's arguments filed 10/21/03 have been fully considered but they are not persuasive. Regarding claim 1 with Uchiyama reference, it is noted that claim 1 in the present application is an open-ended claim and does not exclude the fact that the space between the protrusions is filled with other material. Claim 1 does not clearly and specifically recite the air core armature. In fact, Uchiyama shows the air core armature (17) in the air gap extending from (7) to (8) in Figure 1(b).

Regarding claims 8-10, in the art of motor and generator it is well known to make the rotor and stator core with axial layers of laminations in order to reduce eddy current that generates heat. This is taught at every university around the world. See Takajashi et al. (5,065,060). Therefore, Tanaka does not have to specifically teach this feature.

As a result, the rejection is still deemed proper and repeated hereinafter.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, 5-7, and 13-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Uchiyama.

Regarding claim 1, Uchiyama shows an inductor alternator flywheel system (Figures 1(a) and 1(b)) comprising:

- A rotatable member (4) mounted on bearings for rotation about an axis, said member including a flywheel rotor with a hollow center and an inwardly facing radial surface forming a plurality of protrusions (9) extending radially inwardly;
- A non-rotating member (17) having a source of homopolar flux (F), said flux creating magnetic poles in said protrusions;
- At least one cylinder (15) having an outer radial surface, said cylinder being mounted concentric with respect to said rotor and spaced apart radially from said protrusions such that an armature air gap between said protrusions and said outer surface, said cylinder being constructed of substantially high permeability material (iron); and

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- At least one armature coil (16) mounted within said air gap such that said flux (F) induces an alternating voltage in said armature coil when said rotor rotates about said axis.

Regarding claims 2, 5-7, and 13-17, it is noted that Uchiyama also shows all of the limitations of the claimed invention.

6. Claims 23-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Kouril et al. (3,866,442).

Regarding claims 23-25, Kouril et al. show all of the limitations of the claimed invention I Figure 2 including a motor (11) driving the flywheel (13) being coupled to a generator (18) producing a constant voltage during an interruption (because of regulator 19 with input 22 and reference 23).

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchiyama in view of Tanaka.

Regarding claim 8, Uchiyama show all of the limitations of the claimed invention except for said liner being constructed from multiple axial layers that reduce eddy currents in said intrusions.

Tanaka shows the liner (17) being constructed from multiple axial layers that reduce eddy currents in said intrusions for the purpose of reducing heat.

Since Uchiyama and Tanaka are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to construct said liner from multiple axial layers that reduce eddy currents in said intrusions as taught by Tanaka for the purpose discussed above.

Regarding claims 9 and 10, it is noted that Tanaka also shows all of the limitations of the claimed invention.

9. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchiyama in view of Murakami et al.

Regarding claim 11, Uchiyama show all of the limitations of the claimed invention except for an electromagnet mounted with respect to said flywheel rotor such that said electromagnet, when energized, lifts a majority of the weight of said flywheel rotor from said mechanical bearings.

Murakami et al. show an electromagnet mounted with respect to said flywheel rotor such that said electromagnet, when energized, lifts a majority of the weight of said flywheel rotor from said mechanical bearings for the purpose of reducing wear.

Since Uchiyama and Murakami et al. are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to mount an electromagnet with respect to said flywheel rotor such that said electromagnet, when energized, lifts a majority of the weight of said flywheel rotor from said mechanical bearings as taught by Murakami et al. for the purpose discussed above.

Regarding claim 12, it is noted that Murakami et al. also show all of the limitations of the claimed invention.

10. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uchiyama in view of Hull et al.

Regarding claim 18, Uchiyama show all of the limitations of the claimed invention except for said central shaft being constructed of substantially high permeability material.

Hull et al. show said central shaft being constructed of substantially high permeability material for the purpose of increasing flux flow.

Since Uchiyama and Hull et al. are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to make said central shaft of substantially high permeability material as taught by Hull et al. for the purpose discussed above.

***Allowable Subject Matter***

11. Claims 19-22 and 26-41 are allowed.

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12. Claims 3 and 4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

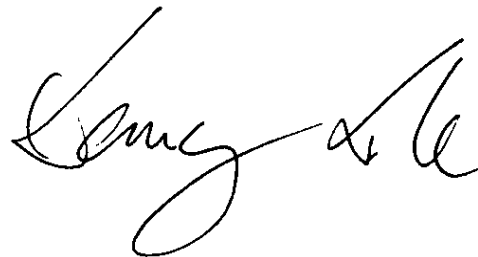
***Information on How to Contact USPTO***

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dang D Le whose telephone number is (703) 305-0156. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9318.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

12/21/03

A handwritten signature in black ink, appearing to read 'Dang D Le', with a stylized, cursive script.

**DANG LE  
PRIMARY EXAMINER**